

Listing of the Claims:

A clean version of the entire set of pending claims is submitted herewith per 37 CFR 1.121(c)(3). This listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Previously Presented) A method of embedding a secondary signal of a secondary channel in the bitstream of a primary signal of a primary channel, comprising:

distorting the bitstream of the primary signal by a particular distortion; and outputting the bitstream of the primary signal having the distorted bitstream, wherein the secondary signal is represented by the particular distortion.

2. (Previously Presented) The method of claim 1, wherein distorting the bitstream of the primary signal comprises inserting local phase errors in the bitstream of the primary signal.

3. (Previously Presented) The method of claim 2, wherein the absolute value of the phase error is chosen such that it is smaller than the channel clock period of the primary channel.

4. (Previously Presented) The method of claim 3, wherein low frequency variations are introduced into the channel clock of the primary channel.

5. (Previously Presented) The method of claim 4, wherein the channel clock of the primary channel is modulated within the bandwidth of a phase locked loop circuit locked to the primary signal for synchronization.

6. (Previously Presented) The method of claim 1, wherein the bitstream of the primary signal of the primary channel consists of a stream of bits for being recorded on an optical data carrier in the form of lands and marks.

7. (Previously Presented) The method of claim 1, wherein the secondary signal comprises a copy protection key or a digital right.

8. (Original) Apparatus for embedding a secondary signal of a secondary channel in the bitstream of a primary signal of a primary channel, comprising:

distortion means for distorting the bitstream of the primary signal such that the secondary signal is represented by a predetermined distortion, and
output means for outputting the bitstream of the primary signal.

9. (Original) Apparatus according to claim 8, wherein the distortion means comprises

a buffer for buffering the bitstream of the primary signal and
an encoder for generating a distortion signal and modulating the buffered bitstream of the primary signal before inputting it to the output means.

10. (Original) Apparatus for recording a primary signal of a primary channel on a record carrier comprising an apparatus for embedding a secondary signal of a secondary channel in the bitstream of a primary signal of a primary channel according to claim 8.

11. (Previously Presented) A method for detecting a secondary signal of a secondary channel embedded in the bitstream of a primary signal of a primary channel, the secondary signal being represented by a predetermined distortion of the bitstream of the primary signal, comprising:

detecting the distortion of the bitstream; and
decoding the secondary signal from the distortion.

12. (Original) Method according to claim 11, wherein the distortion is detected in a phase locked loop circuit.

13. (Original) Apparatus for detecting a secondary signal of a secondary channel embedded in the bitstream of a primary signal of a primary channel, the secondary signal being represented by a predetermined distortion of the bitstream of the primary signal, comprising detection means for detecting the distortion of the bitstream, and decoding means for decoding the secondary signal from the distortion.

14. (Original) Apparatus for replaying data stored on a record carrier comprising an apparatus for detecting a secondary signal of a secondary channel embedded in the bitstream of a primary signal of a primary channel according to claim 13.

15. (Original) Data carrier for storing a bitstream of a primary signal of a primary channel having embedded therein a secondary signal of a secondary channel, the bitstream of the primary signal being distorted before storing such that the secondary signal is represented by a predetermined distortion.

16. (Previously Presented) The method of claim 2, wherein an absolute value of the phase error is less than one half of a channel clock period of the primary channel.

17. (Previously Presented) The method of claim 2, wherein an absolute value of the phase error is between 20% and 50% of a channel clock period of the primary channel.

18. (Previously Presented) The method of claim 5, wherein the channel clock of the primary channel is modulated with a phase or frequency modulated sine wave.

19. (Previously Presented) The method of claim 6, wherein the optical data carrier is one of a CD and a DVD.